PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

Assistant Commissioner for Patents
United States Patent and Trademark Office
Box PCT
Washington, D.C.20231
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 16 February 2000 (16.02.00)	
International application No. PCT/NL99/00444	**Applicant's or agent's file reference** P10257PC00
International filing date (day/month/year) 12 July 1999 (12.07.99)	**Priority date** (day/month/year) 10 July 1998 (10.07.98)
Applicant HOLTKAMP, Egbert, Berend	

1. The designated Office is hereby notified of its election made:

[X] in the demand filed with the International Preliminary Examining Authority on:

13 December 1999 (13.12.99)

[ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

[ ] was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO **34, chemin des Colombettes** **1211 Geneva 20, Switzerland**	Authorized officer Claudio Borton
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

Form PCT/IB/331 (July 1992)

3110131

PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF THE RECORDING OF A CHANGE

(PCT Rule 92bis.1 and Administrative Instructions, Section 422)

To:

OTTEVANGERS, S., U.
Vereenigde
Nieuwe Parklaan 97
NL-2587 BN The Hague
PAYS-BAS

Date of mailing (day/month/year)
04 May 2000 (04.05.00)

Applicant's or agent's file reference
P10257PC00

IMPORTANT NOTIFICATION

International application No.
PCT/NL99/00444

International filing date (day/month/year)
12 July 1999 (12.07.99)

1. The following indications appeared on record concerning:

[ ] the applicant [ ] the inventor [X] the agent [ ] the common representative

Name and Address

OTTEVANGERS, S., U.
Vereenigde Octrooibureaux
Nieuwe Parklaan 97
NL-2587 BN The Hague
Netherlands

State of Nationality:

State of Residence:

Telephone No.: 070-41 66 711

Facsimile No.: 070-41 66 799

Teleprinter No.:

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

[ ] the person [ ] the name [X] the address [ ] the nationality [ ] the residence

Name and Address

OTTEVANGERS, S., U.
Vereenigde
Nieuwe Parklaan 97
NL-2587 BN The Hague
Netherlands

State of Nationality:

State of Residence:

Telephone No.: 070-41 66 711

Facsimile No.: 070-41 66 799

Teleprinter No.:

3. Further observations, if necessary:
The company name has changed.

4. A copy of this notification has been sent to:

[X] the receiving Office
[ ] the International Searching Authority
[X] the International Preliminary Examining Authority
[ ] the designated Offices concerned
[X] the elected Offices concerned
[ ] other:

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

S. De Michiel

Telephone No.: (41-22) 338.83.38

09/720268
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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference	FOR FURTHER ACTION	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
P10257PC00		
International application No.	International filing date *(day/month/year)*	Priority date *(day/month/year)*
PCT/NL99/00444	12/07/1999	10/07/1998
International Patent Classification (IPC) or national classification and IPC E04H15/00		
Applicant HOLTKAMP, EGBERT BEREND		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

   ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of 5 sheets.

3. This report contains indications relating to the following items:

   - I ☒ Basis of the report
   - II ☐ Priority
   - III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   - IV ☒ Lack of unity of invention
   - V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations suporting such statement
   - VI ☐ Certain documents cited
   - VII ☒ Certain defects in the international application
   - VIII ☒ Certain observations on the international application

Date of submission of the demand	Date of completion of this report
13/12/1999	19.10.2000
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Festor, E Telephone No. +49 89 2399 2474

Form PCT/IPEA/409 (cover sheet) (January 1994)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/NL99/00444

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1,2,5-15	as originally filed			
3,4	as received on	09/06/2000	with letter of	09/06/2000

Claims, No.:

1-40	as received on	09/06/2000	with letter of	09/06/2000

Drawings, sheets:

1/1	as originally filed

2. The amendments have resulted in the cancellation of:

☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application.

☒ claims Nos. 2-12, 14-20, 22-37, 39, 40.

because:

☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):

☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. 2-12, 14-20, 22-37, 39, 40 are so unclear that no meaningful opinion could be formed (*specify*):

see separate sheet

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the said claims Nos. .

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

   ☐ restricted the claims.

   ☐ paid additional fees.

   ☐ paid additional fees under protest.

   ☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

   ☐ complied with.

   ☒ not complied with for the following reasons:

   see separate sheet

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

   ☐ all parts.

   ☒ the parts relating to claims Nos. 1, 13, 21, 38.

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims 38
	No:	Claims 1, 13, 21
Inventive step (IS)	Yes:	Claims
	No:	Claims 38
Industrial applicability (IA)	Yes:	Claims 1, 13, 21, 38
	No:	Claims

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

1. The following documents are mentioned in the international search report:
D1 = GB -A- 2 258 666 **D2** = DE -A- 24 59 590 **D3** = US -A- 3 670 747 **D4** = US -A- 884 948
The following document was not cited in the international search report. A copy of the document is appended hereto:
D5 = US-A-3 332 177

2. The application contains the following separate groups of invention:
   a) Group (a): **a method** for manufacturing a tent construction
      - independent claim **1**
      - dependent claims **2-12, 20**
   b) Group (b): **a method** for manufacturing a tent construction
      - independent claim **13**
      - dependent claims **14-20**
   c) Group (c): **a tent construction**
      - independent claim **21**
      - dependent claims **22-37, 39, 40**
   d) Group (d): **a caravan** or **folding caravan**
      - independent claim **38**

INDEPENDENT CLAIM 1 OF GROUP (a)

3. For independent claim **1**, **D1** is considered to represent the most relevant state of the art.

3.1 **D1** discloses *(cf. in particular figures 2 to 7)* a **method** for manufacturing a **tent construction** comprising at least one **panel 7** manufactured from *suitable* cloth, said method comprising the steps of:
   a) **manufacturing** a basic tent construction 16 having at least one **basic panel 15** from a *desired* material and
   b) **providing** at least one of said basic panels 15 with one or more covering panels 7 *(cf. figure 5)* of waterproof material *(cf. page 5, second paragraph: "water-proof fabric patches 7")* which form part of the outer wall of the tent construction *(cf. figure 3)*.

3.2 Remark:
The provision of the basic panel 15 with a covering panel 7 is seen in figures 4-7 where both panels are connected together by the attachment devices 12,1a,17,18.

3.3 Thus, the combination of features of independent claim **1** is disclosed by the device described in **D1**. Therefore, the subject-matter of claim **1** is **not new** and claim **1** is not allowable (Article 33 (2) PCT).

INDEPENDENT CLAIM 13 OF GROUP (b)

4. For independent claim **13**, **D5** is considered to represent the most relevant state of the art.

4.1 **D5** discloses *(cf. in particular figures 9-13b)* a **method** for manufacturing a tent construction having at least one **roof panel 10** and at least one **wall panel 14**, said method comprising the steps of

a) **making** at least the roof panel of **double-walled** design (cf. figure 10) having an outer panel 3 and an inner panel 2, and
b) **providing** operable **closing means 6** to enable opening or closing the interspace located between the inner panel 2 and the outer panel 3.

4.2 Thus, the combination of features of independent claim **13** is disclosed by the device described in **D5**. Therefore, the subject-matter of claim **13** is **not new** and claim **13** is not allowable (Article 33 (2) PCT).

INDEPENDENT CLAIM **21** OF GROUP **(c)**

5. For independent claim **21**, **D1** is considered to represent the most relevant state of the art.

5.1 **D1** discloses *(cf. in particular figures 2 to 7)* a **tent construction** comprising
a) at least one **panel 7** manufactured from *suitable* cloth,
b) a **basic tent construction 16** comprising at least one **basic panel 15**,
wherein
c) at least one of the basic panels 16 is covered with one or more **covering panels 7** *(cf. figure 5)* of **waterproof** material *(cf. page 5, second paragraph: "water-proof fabric patches 7")*, forming part of the **outer wall** of the tent construction *(cf. figure 3)*.

5.2 Thus, the combination of features of independent claim **21** is disclosed by the device described in **D1**. Therefore, the subject-matter of claim **21** is **not new** and claim **21** is not allowable (Article 33 (2) PCT).

INDEPENDENT CLAIM **38** OF GROUP **(d)**

6. Since the tent according to claim **21** is **not new**, it is obvious that a tourist could and would put such a tent in his caravan before going on holidays. Thus, the subject-matter of claim **38** does not involve an inventive step and does not satisfy the criterion set forth in Article 33(3) PCT.

DEPENDENT CLAIMS **2 to 4, 6, 7, 9, 11, 12, 14, 16 to 20, 22, 23, 26, 27, 34 to 37 and 39**

7. These dependent claims directly referring to one of the claims **1, 13** or **21** which object is not **new**
- the separate inventions or groups of inventions described in these claims are not so linked as to form a *single general inventive concept* (article 3(4)(iii) PCT and rule 13.1 PCT) and
- the application does no more fulfill the requirements of article 6 PCT, because the claims *as a whole* are no more clear (PCT-Guidelines, Section IV, III, 4.1, first sentence).

Since the applicant did not state upon which invention further prosecution of the application should be based (Rule 68.4 PCT), the **international preliminary examination report**
- is established on those parts which relate to what appears to be the **main invention** , i.e. the invention mentioned in the independent claims **1, 13, 21 and 38** (article 34(3)(c) PCT and rule 68.5 PCT), and
- does not contain any statement as provided in art. 35(2) PCT, on those parts which relate to other invention(s), i.e. those mentioned in the dependent claims (articles 34(4)(ii) and 35(3)(a) PCT).

AMENDMENTS FILED WITH LETTER OF 09.06.2000

8. With letter of **09.06.2000**, the applicant filed **three** sheets of amendments which are not acceptable for the following reasons:

   a) concerning the amended pages **3** and **4** of the description:
   These amended pages are not accepted because the amended passages are handwritten and not typed or printed (cf. article 3(4)(ii) PCT in combination with the rules 11.9(a) PCT, 11.14 PCT),

   b) concerning the paragraph to be *inserted* between lines **9** and **10** in page **4** of the description:
   These amendments are not accepted because they are not made on a replacement sheet (rule 66.8(a) PCT).

INDUSTRIAL APPLICABILITY

9. The subject-matter according to any of claims **1, 13, 21** or **38** is industrially applicable.

DEFECTS AND OBSERVATIONS

10. The application contains the following defects and gives rise to the following observations:

10.1 Independent claim **38** is placed between claims depending from independent claim **21**. Thus the requirements of rule 6.4(c) PCT are not fulfilled.

10.2 Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document **D1** and **D5** is not mentioned in the description, nor are these documents identified therein.

10.3 The last paragraph of the description should have been deleted, to avoid an expansion of the extent of protection in some vague and not precisely defined way (PCT-Guidelines C-III, 4.3a and 6.5).

The object of the invention is to overcome the drawbacks and problems outlined and generally to provide a durable and efficient tent construction and method for the manufacture thereof. Another object of the invention is to provide a tent construction and a method for the manufacture thereof that offers very good ventilation possibilities and in which condensation is prevented.

In accordance with the invention, a method for manufacturing a tent construction comprising at least one panel manufactured from suitable cloth is characterized in that a basic tent construction having at least one basic panel is manufactured from a desired material and that at least one of the basic panels is provided with one or more covering panels which form part of the outer wall of the tent and which are attached so as to be at least partially detachable.

A tent construction according to the invention is characterized by a basic tent construction comprising at least one basic panel, at least one of the basic panels being covered with one or more covering panels of waterproof material which form part of the outer wall of the tent construction. In accordance with another aspect of the invention, at least one covering panel is attached so as to be at least partially detachable.

It is observed that US Patent 5,765,584 discloses a tent whose door is provided with a portion manufactured from gauze, which is in turn provided with a partially detachable

covering panel. This known covering panel is manufactured from waterproof material, yet is located on the inside of the gauze panel and hence on the inside of the tent. The known covering panel, provided on the inside, can partially be unzipped for enabling opening a ventilation opening from the inner space of the tent. Hence, the known panel does not protect a possibly vulnerable inner panel. Also, in the closed position, the known panel does not prevent condensation on the inside.

Hereinafter, the invention will be further described with reference to the accompanying drawing of some exemplary embodiments.

Fig. 1 schematically shows, in perspective, an example of a practical application of the invention with a folding trailer provided with a front tent;

Fig. 2 schematically shows another application of the invention;

Fig. 3 shows a detail of a tent construction according to the invention; and

Fig. 4 shows a detail of Fig. 2.

Fig. 1 schematically shows an example of a folding trailer tent 1 provided with a front tent 2.

A (folding trailer) tent can be made from 100% synthetic cloth products having a very long lifetime, but which, however, have the drawbacks of condensation and the lack of "breathing capacity". In accordance with a first aspect of the invention, a "skeleton" for at least a part of

Claims

1. A method for manufacturing a tent construction comprising at least one panel manufactured from suitable cloth, characterized in that a basic tent construction having at least one basic panel is manufactured from a desired material and that at least one of the basic panels is provided with one or more covering panels of waterproof material which form part of the outer wall of the tent construction.

2. A method according to claim 1, characterized in that at least one of the covering panels is fitted so as to be at least partially detachable.

3. A method according to claim 1 or 2, characterized in that the basic panel is formed by a number of relatively narrow edge strips of durable cloth, to which edge strips one or more at least partially detachable covering panels are attached, which together with the relatively narrow edge strips form a complete panel or panel part.

4. A method according to claim 1 or 2, characterized in that the basic tent construction is formed from breathing material and that at least one covering panel of weather-resistant material is fitted.

5. A method according to claim 3, characterized in that the opening left clear by the relatively narrow edge strips is closed off by a relatively open, breathing material for

forming a closed basic panel, and that on the thus obtained basic panel at least one covering panel of weather-resistant material is fitted.

6. A method according to any one of the preceding claims, characterized in that at least one of the basic panels is provided with covering panels arranged in the manner of roof tiles or scales.

7. A method according to any one of the preceding claims, characterized in that one of more covering panels are arranged for setting out or folding down or the like.

8. A method according to claim 3, characterized in that from the relatively narrow edges, together with tent poles and the like, a frame for the tent construction is formed.

9. A method according to any one of the preceding claims, characterized in that for attaching at least one covering panel along at least one of the edges of the covering panel, detachable fastening means are used.

10. A method according to claim 9, characterized in that the detachable fastening means consist of zippers, Velcro fasteners or the like.

11. A method according to any one of the preceding claims, characterized in that at least one of the covering panels is provided with an expansion member to enable putting the covering panel into an outwardly open position

12. A method according to any one of the preceding claims, characterized in that at least one of the covering panels is

provided with one or more guy ropes for stretching out the covering panel.

13. A method for manufacturing a tent construction having at least one roof panel and at least one wall panel, characterized in that at least the roof panel is of double-walled design having an outer panel and an inner panel, and that operable closing means are provided to enable opening or closing the interspace located between the inner panel and the outer panel.

14. A method according to claim 13, characterized in that the outer panel is provided with means for tautening the outer panel to increase the interspace between the outer panel and the inner panel.

15. A method according to claim 14, characterized in that at the location of at least one of the tent poles, the outer panel is provided with at least one additional opening for receiving a tent pole to enable bringing the outer panel into a taut and a less taut condition.

16. A method according to any one of claims 13-15, characterized in that the inner panel is cut hollow.

17. A method according to any one of claims 13-16, characterized in that the outer panel is designed with detachable fastening means provided along at least two edges, for attaching the outer panel to the inner panel.

18. A method according to any one of claims 13-17, characterized in that the outer panel is provided with edge

flaps for covering the interspace between the outer panel and the inner panel.

19. A method according to any one of claims 13-18, characterized in that the inner panel is provided with one or more waterproof edge strips.

20. A method according to any one of the preceding claims, the tent construction comprising a roof consisting of at least one panel, characterized in that the roof as a whole and/or the panels forming the roof are designed so as to be separately detachable, utilizing suitable operable fastening means.

21. A tent construction comprising at least one panel manufactured from suitable cloth, characterized by a basic tent construction comprising at least one basic panel, at least one of the basic panels being covered with one or more covering panels of waterproof material, forming part of the outer wall of the tent construction.

22. A tent construction according to claim 21, characterized in that at least one of the covering panels is attached so as to be at least partially detachable.

23. A tent construction according to claim 21 or 22, characterized in that the at least one basic panel comprises a number of relatively narrow edge strips of durable material, one or more at least partially detachable covering panels being attached to the edge strips.

24. A tent construction according to claim 23, characterized in that the opening of the at least one basic panel, which

opening is left clear by the relatively narrow edge strips, is closed off by an air and/or light-permeable material for forming a closed basic panel.

25. A tent construction according to claim 23 or 24, characterized in that the relatively narrow edge strips of a number of basic panels, together with associated tent poles or the like, form at least a part of a frame for the tent construction.

26. A tent construction according to claim 21 or 22, characterized in that the basic tent construction is at least partially built up from breathing cloth, on which a suitable number of panels from weather-resistant material are provided, said number of panels comprising one or more at least partially detachable panels.

27. A tent construction according to any one of claims 21-26, characterized in that the at least partially detachable panels comprise at least a roof panel.

28. A tent construction according to claim 27, characterized in that by operable fastening means, the roof panel is connected along at least two edges to an inner roof panel, while by the fastening means, a gap-shaped space can be opened or closed between the outer roof panel and the inner roof panel.

29. A tent construction according to claim 28, characterized in that the inner roof panel is provided with waterproof edge strips adjacent the fastening means.

30. A tent construction according to claim 28 or 29, characterized in that the outer roof panel is provided with an edge flap adjacent the fastening means, for covering the entrance to the gap-shaped space.

31. A tent construction according to any one of claims 27-30, characterized by tensioning means for tensioning the at least one roof panel taut or less taut.

32. A tent construction according to claim 31, characterized in that the tensioning means comprise a number of receiving openings for a tent pole, provided side by side in the roof panel.

33. A tent construction according to any one of claims 27-32, characterized by an inner roof panel which is located under a partially detachable outer roof panel and which is cut hollow.

34. A tent construction according to any one of claims 21-33, having an outer roof formed from one or more covering panels, characterized in that the outer roof as a whole and/or one or more of the panels thereof is/are attached by operable fasteners so as to be entirely detachable.

35. A tent construction according to any one of claims 21-34, characterized in that at least a number of covering panels can be stretched out by means of expanders and/or tensioners.

36. A tent construction according to any one of claims 21-35, characterized in that at least one of the covering panels is of double-layered design such that between the

layers of such a covering panel, a layer of insulating material can be provided.

37. A tent construction according to any one of claims 21-35, characterized in that under at least a number of covering panels, a layer of insulating material has been provided.

38. A caravan or folding caravan comprising a tent construction according to any one of claims 21-37.

39. A tent construction according to any one of claims 21-37, designed as protective cover comprising a number of panels, characterized in that at least one of the panels comprises a basic panel of breathing material which, in operation, is located on the inside of the cover and which comprises a covering panel of waterproof material located on the outside, said covering panel being attached, at least along a number of its circumferential edges, to the basic panel, such that an insulating layer of air is present between the basic panel and the covering panel.

40. A tent construction according to claim 39, characterized by spacers provided between the covering panel and the basic panel.

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
P10257PC00		
International application No.	International filing date *(day/month/year)*	(Earliest) Priority Date *(day/month/year)*
PCT/NL 99/00444	12/07/1999	10/07/1998
Applicant		
HOLTKAMP, EGBERT BEREND		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

[X] It is also accompanied by a copy of each prior art document cited in this report.

1. **Basis of the report**

a. With regard to the **language,** the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

[ ] the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

[ ] contained in the international application in written form.

[ ] filed together with the international application in computer readable form.

[ ] furnished subsequently to this Authority in written form.

[ ] furnished subsequently to this Authority in computer readble form.

[ ] the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

[ ] the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. [ ] **Certain claims were found unsearchable** (See Box I).

3. [ ] **Unity of invention is lacking** (see Box II).

4. With regard to the **title,**

[ ] the text is approved as submitted by the applicant.

[X] the text has been established by this Authority to read as follows:

TENT CONSTRUCTION AND METHOD FOR MANUFACTURING THIS TENT CONSTRUCTION

5. With regard to the **abstract,**

[X] the text is approved as submitted by the applicant.

[ ] the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No. 1

[ ] as suggested by the applicant.

[X] because the applicant failed to suggest a figure.

[ ] because this figure better characterizes the invention.

[ ] None of the figures.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/NL 99/00444

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: E04H 15/00
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: E04H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 2459590 A1 (KAMMERICH, H.), 1 July 1976 (01.07.76), figure 1, claim 1	1-40
A	GB 2258666 A (BAEJIN CORPORATION), 17 February 1993 (17.02.93), figure 3, abstract	1-40
A	US 884948 A (R.P. ORR), 14 April 1908 (14.04.08), page 1, line 47 - line 54, figure 3	1-40

[X] Further documents are listed in the continuation of Box C. [X] See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" erlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
30 Sept 1999	- 5. 11. 99

Name and mailing address of the International Searching Authority
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NL-2280 HV Rijswijk
Tel(+31-70)340-2040, Tx 31 651 epo nl,
Fax(+31-70)340-3016

Authorized officer
Vilho Juvonen / MR

INTERNATIONAL SEARCH REPORT

International application No.
PCT/NL 99/00444

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Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3670747 A (H.J. POHL ET AL), 20 June 1972 (20.06.72), column 1, line 41 - line 50, figures 1, 2	1-40

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Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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GB 2258666 A	17/02/93	DE 4238143 A,C	19/05/94
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(71)(72) Applicant and Inventor: HOLTKAMP, Egbert, Berend [NL/NL]; Hoofdstraat 9, NL–9561 JA Ter Apel (NL).

(74) Agent: OTTEVANGERS, S., U.; Vereenigde Octrooibureaux, Nieuwe Parklaan 97, NL–2587 BN The Hague (NL).

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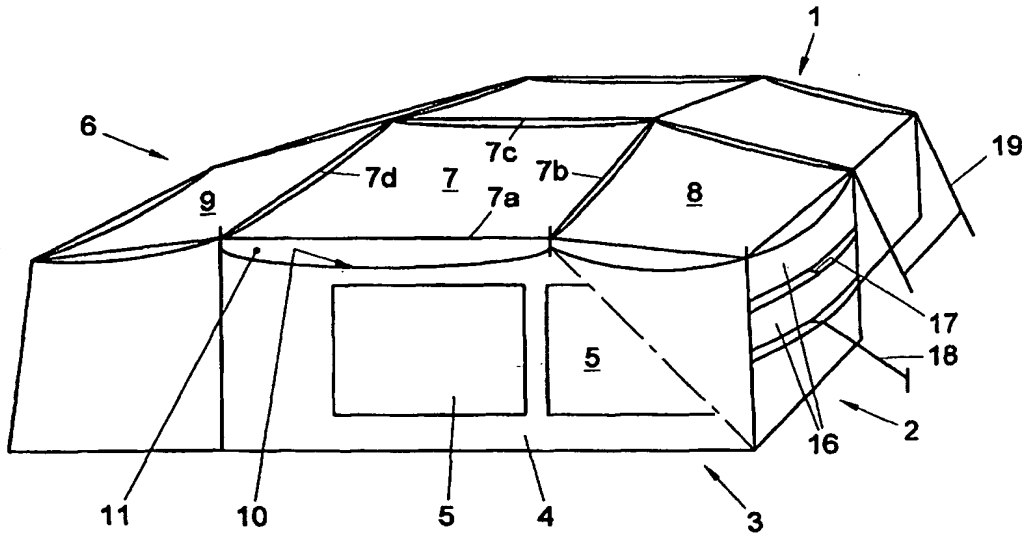
(54) Title: TENT CONSTRUCTION AND METHOD FOR MANUFACTURING THIS TENT CONSTRUCTION



(57) Abstract

Method for manufacturing a tent construction having at least one panel manufactured from suitable cloth, and tent construction manufactured utilizing the method. A basic panel is manufactured from a material of desired properties and is provided with one or more covering panels or waterproof material that form part of the outer wall of the tent construction. The basic panel may consist of relatively narrow edges of durable material or of an entirely or partially closed panel of open, breathing material.

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Title: CONSTRUCTION AND METHOD FOR MANUFACTURING THIS TENT CONSTRUCTION

The invention relates to a method for manufacturing a tent construction and to a tent construction manufactured according to the method. Within the framework of this specification, a "tent" or "tent construction" is meant to include any construction having one or more walls, including the roof, which are manufactured from (tent) cloth. Some of the many possible examples are camping tents, folding trailer tents, front tents, party tents, circus tents, stalls, protective covers, working tents, roofs, awnings, etc.

A problem is that due to a new European legislation in respect of anti-fungal and water-repellent agents for tent cloth (PCP, inter alia, is prohibited or will be so before long, while the cloth that is treated with heavy metals must be taken back by the manufacturer or supplier at the end of its service life), tent cloth from cotton or mixed fiber (cotton/polyester) becomes mildewed very quickly. As a consequence, under unfavorable conditions, a (folding trailer) tent cannot remain folded-in for more than 12 hours, which is an unacceptably short time. Also, with a (folding trailer) tent, it is no longer possible to camp for a longer time during rainy weather conditions, because the cloth will then be affected by fungi.

Because of these problems, the lifetime of tents manufactured from cotton cloth or cloth from mixed fiber becomes unacceptably short, especially in view of the relatively high purchase price. For environmental reasons, this is therefore an objectionable matter, since in spite of

the fact that less toxic substances are used because of the new legislation, the substances remain toxic all the same, from an environmental viewpoint. In view of the (unduly) short lifetime, the tents have to be replaced more often than necessary.

The above problem of a short lifetime due to fungoid growth and fouling can be overcome by using cloth manufactured from synthetic material, such as waterproof polyester cloth or a cloth manufactured from other suitable synthetic fibers, or a plasticized cloth. However, a drawback of such type of cloth is that it does not breathe. As a consequence, condensation occurs on the inside of the tent construction. This also holds for a new type of cotton cloth which has recently become available and which is treated in such a manner that it does not become mildewed quickly and is fire-resistant, but which does not breathe sufficiently, if at all.

Another problem that presents itself in particular in roofs of tent constructions and in particular, but certainly not exclusively, in roofs of front tents of caravans, is that these tent roofs are fouled relatively quickly by sticky drops, such as resin, falling from trees, and by bird droppings. Cleaning of such tent roofs is hardly possible. In practice, it often turns out that front tents of caravans have to be replaced after two years already, due to the fouling of mainly the roof that has occurred in that period.

The object of the invention is to overcome the drawbacks and problems outlined and generally to provide a durable and efficient tent construction and method for the manufacture thereof. Another object of the invention is to provide a tent construction and a method for the manufacture thereof that offers very good ventilation possibilities and in which condensation is prevented.

In accordance with the invention, a method for manufacturing a tent construction comprising at least one panel manufactured from suitable cloth is characterized in that a basic tent construction having at least one basic panel is manufactured from a desired material and that at least one of the basic panels is provided with one or more covering panels which form part of the outer wall of the tent and which are attached so as to be at least partially detachable.

A tent construction according to the invention is characterized by a basic tent construction comprising at least one basic panel, at least one of the basic panels being covered with one or more covering panels of waterproof material which form part of the outer wall of the tent construction. In accordance with another aspect of the invention, at least one covering panel is attached so as to be at least partially detachable.

It is observed that US Patent 5,765,584 discloses a tent whose door is provided with a portion manufactured from gauze, which is in turn provided with a partially detachable

covering panel. This known covering panel is manufactured from waterproof material, yet is located on the inside of the gauze panel and hence on the inside of the tent. The known covering panel, provided on the inside, can partially be unzipped for enabling opening a ventilation opening from the inner space of the tent. Hence, the known panel does not protect a possibly vulnerable inner panel. Also, in the closed position, the known panel does not prevent condensation on the inside.

Hereinafter, the invention will be further described with reference to the accompanying drawing of some exemplary embodiments.

Fig. 1 schematically shows, in perspective, an example of a practical application of the invention with a folding trailer provided with a front tent;

Fig. 2 schematically shows another application of the invention;

Fig. 3 shows a detail of a tent construction according to the invention; and

Fig. 4 shows a detail of Fig. 2.

Fig. 1 schematically shows an example of a folding trailer tent 1 provided with a front tent 2.

A (folding trailer) tent can be made from 100% synthetic cloth products having a very long lifetime, but which, however, have the drawbacks of condensation and the lack of "breathing capacity". In accordance with a first aspect of the invention, a "skeleton" for at least a part of

a tent (comparable with a timbered house) can be made from synthetic material. However, one or more large faces (roof and sidewall faces) of the tent are "filled in" with exchangeable cloth panels. Fig. 1 shows a front wall 3 of a (front) tent, constructed according to this principle. The wall 3 comprises strips 4 of firm cloth, which form the skeleton of the wall 3, as well as exchangeable panels 5. By means of zippers or Velcro or other techniques, these panels are attached to the "timbered frame/skeleton" along their circumferential edges. The number and dimensions of the panels can be optional. A small number of large panels, or a larger number of small panels. After many years of use, the exchangeable panels can be replaced as and when required. These panels can be produced in stock, in cotton cloth as well as in synthetic materials. At the moment of purchase and thereafter, the user of the tent can decide for himself which panels have to be supplied in synthetic cloth, and which panels in cotton cloth. The choice can partly be motivated by the intended use. If the tent, folding trailer or front tent is predominantly used for camping "on the hike", or, conversely, for a fixed stand, this may determine the composition of the panels. Also, in this manner, allowances can be made for personal preference. One of the objects of the invention is to offer the possibility of minimizing the number of fixed panels of cloth of a relatively short lifetime. In addition, the tent no longer has to be thrown away when a particular panel of cotton cloth has become

moldy, fouled or leaky. The tent (the "timbered frame", the "framework") with all its complicated angular joints, fastening points, reinforcements, etc. is produced once, for a long time, and the "fill-in" panels can be purchased or replaced as and when required. The effect that the tent is discarded due to fouling or because its color is no longer modern can hereby be avoided. This is an advantage to the environment. It is also possible to fit, per panel opening, two or more, if necessary overlapping panels in a simple manner by zippers, Velcro, etc. If so desired, the panels can partially be of rollable or erectable design, to promote the admission of light and air. Hence, the framework of the tent can comprise edges or strips supported by tent poles and the like, which edges or strips are manufactured from highly durable cloth and whereto or whereon panels are fitted that are relatively easy to attach and replace. According to a modification of the above-described tent construction, it is possible to use a number of exchangeable panels which are not, or not all of them, mounted on a separate skeleton, but which are directly detachably connected to adjoining panels via zippers, Velcro or the like.

Fig. 1 schematically shows an example of such construction, used for the roof 6 of the front tent. In the example shown, the roof comprises a central section 7 and two side sections 8 and 9. One or more of the sections 7-9 may be detachably connected to the adjoining section(s) and/or adjoining walls, allowing these detachable sections, when for

instance fouled, to be detached and cleaned. In practice, the cleaning of a roof panel of a tent construction, such as for instance a front tent of a (folding) caravan, is hardly possible if the roof panel is not detachable. Further, when fouled seriously, such panel can readily be replaced. If, for instance, the central section 7 is separately replaceable, zippers or Velcro fasteners may be provided along the edges 7a, 7b, 7c and 7d. Of course, the roof may also be detachable and replaceable as a whole, whether or not in combination with separately detachable roof sections.

Preferably, the roof of the tent is of double design, with an inner roof and an outer roof. In that case, the outer roof may be connected along one or more edges to the inner roof by operable fasteners such as, for instance, zippers or Velcro fasteners or the like. The inner roof may then again be detachably or undetachably connected to a tent skeleton as described hereinabove, or be directly connected, also detachably or undetachably, to adjoining roof panels and/or wall panels.

A major advantage of such construction is that by entirely or partially undoing, on two directly or obliquely opposite or adjoining edges, zippers or Velcro or the like, whereby the outer roof is connected to the inner roof, a perfect ventilation possibility is created. In the example shown in Fig. 1, for instance, the zippers of the roof section 7 have been opened along the edges 7a and 7c, to create an open gap 11 between inner roof section 10 and outer

roof section 7. Through the gap, air can flow that may provide cooling when the weather is hot and that may also provide ventilation in the tent when the inner roof is at least manufactured from air-permeable material. By opening only one zipper, for instance on the wind side, forced air is blown into the tent via the gap 11. Conversely, when the zipper on the lee side is opened, air is drawn from the tent.

However, also if no wind is involved, a ventilating air circulation can be created by opening one or more zippers entirely or partially, in that hot air located between the inner roof and the outer roof can then flow away, whereupon air present in the tent can flow through.

To effect that, if necessary, the gap 11 between inner roof and outer roof actually remains open, the outer roof is preferably provided with a tensioning mechanism for pulling the outer roof taut, at least tauter than the inner roof. For this purpose, the outer roof can for instance be readily provided with two or more juxtaposed openings for tent poles, where normally only one opening is present. By using the suitable opening, the roof can be pulled tauter or, by contrast, less taut.

The above arrangement is shown schematically in Fig. 3. Fig. 3 shows two tent poles 12,13 and an inner roof panel 10 supported thereby. Located above the inner roof panel is an outer roof panel 7, which, in this example, has two openings 14,15 at the location of tent pole 12. The opening 14 is closest to the other tent pole 13 and is used,

in this example, for attaching the panel 7 to the tent pole 12, causing the panel 7 to be tautened. If the opening 15 farther from the tent pole 13 is used, the panel 7 is tensioned less taut and the gap 11 between the pieces 7 and 10 is reduced or disappears.

Advantageously, the inner roof panel can be cut hollow, which promotes the formation of an effective ventilation gap 11.

To prevent raining in, the outer roof panel may be provided with edge flaps, not shown, capable of covering the gap 11 in depending condition. The edge flaps can for instance be secured on the adjoining wall by zippers, press studs, loops, hooks, Velcro, etc., or be folded over upwards.

Also, the inner roof panel may have waterproof edge strips along the circumferential edges.

Alternatively, the tent (for instance a camping tent, folding trailer tent, caravan and motorhome front tent) may be constructed from a fairly "open" (like bandage gauze), air-permeable, synthetic woven fabric, for instance from very strong polyester or aramide, etc., or similar yarns. Such a tent can last a generation. The tent can be covered per panel by thin fabrics of cotton, nylon, synthetic cloth, plastic, polyethylene, etc. The type and choice of material per panel can again be filled in individually and according to need and use. An advantage of this method is also that the various panels can remain attached to the supporting fabric by one edge thereof, while the other edges can be attached by a

zipper or the like, which enables the panels to be unzipped and stretched out as desired. In this manner, an almost steplessly controllable ventilation is realized in the tent, whereby the tent can also be optimally ventilated, much better than is usual in the present-day tent technique, during rain (water is discharged, air can enter the tent underneath the panels, via the air-permeable basic/supporting fabric) and during periods of heat. By the stretched-out panels (also roof panels), as for instance shown at 19, like sun screens, the sun is kept out of the tent, while the ventilation can be distributed over almost the entire surface of the tent. Since this supporting fabric can be of a high quality with an enormous resistance to tearing, the safety (vandalism and crime) and the lifetime of the tent has been increased compared with the present-day tents. All advantages of the first-mentioned construction with exchangeable panels apply here as well.

A particular advantage of a double-walled construction of the panels is that also when the outer panels are closed, for instance in the case of rainy weather, condensation is prevented by the insulating action of the layer of air between inner and outer panels and also by the fibrous structure of the inner panels.

These effects, i.e. the insulating action and the prevention of condensation, also occur if an inner panel and an outer panel are fixedly, hence not (partially) detachably, interconnected along their circumferential edges.

A third manner of embodying the finding is to construct the tent from a supporting fabric as desired (for instance cotton for ventilation, strong synthetic fabrics for lifetime and strength, etc.) or a combination of supporting fabrics (cotton, polyester, etc.). The covering panels, which may also be arranged in the manner of roof tiles or scales, can be connected to the basic fabric by, for instance, zippers, Velcro, stitching on one, two or three sides, or a combination thereof, or other connecting techniques. Such panels or "scales" are shown in Fig. 1 at 16, by way of example, and can preferably be pushed or pulled away from the tent from supporting fabric by means of "expanders" 17, or by stretching out by guy ropes, enabling air to permeate the supporting fabric underneath the panels. Along their lower edges, the scales can optionally be provided or not provided with fasteners for attachment to the supporting fabric or to the underlying scale. Optionally, openings or windows may be locally provided in the supporting fabric, behind the covering panels. If so desired, the covering panels can locally be transparent or have (closable) windows. Thus, it is possible to have a supporting tent of breathing material, such as for instance cotton, which, protected by the overlying panels, never becomes wet in the rain and which is not exposed to sunrays. The many advantages already pointed out in the above passages are largely also applicable to this finding.

A combination of all above-described techniques is possible.

A major advantage of a tent construction as described hereinabove is that condensation is even prevented during rainy weather. This renders the construction described highly suitable for being used for, for instance, protective covers for motorcars, boats, motorbikes, airplanes, helicopters, weapon material, excavators and other machines, garden furniture, etc. Other possible applications are the following:

parts of caravans or campers that are made of cloth;

party and circus tents and tents for events;

beach tents;

tents for accommodating refugees or for providing housing otherwise, etc.;

tents for accommodating workers (permanently or not permanently), whether or not for special projects;

accommodations for animals in which tent cloth is used;

storehouses in which cloth is used;

built-on tents for caravans and campers;

various types of awnings, closable or not closable with sidewalls;

shed extensions, verandahs or sun porches;

storage sheds (with tent roof and/or tent walls or portions thereof);

hothouses;

boat and motorcar covers (the cloth or (artificial) leather portion which protects the boat or motorcar permanently from weather influences or which can be opened and closed);
working tents or roofs (used for various purposes, for instance for road, soil, cabling and bridge works, excavations, shipyards, etc.);
boat houses made of cloth;
motorhomes and motorcar garages or roofs made of cloth;
tent houses or tent portions attached to houses;
truck coverings (tarpaulins);
market and sales stalls;
roofs of any nature, such as roofs for swimming pools or sandboxes;
sun screens.

The tent construction according to the invention can also be used for, for instance, the removal of asbestos, by for instance putting up a closed-off tent which keeps the asbestos particles within the tent and keeps out the rain, while the air can enter all the same, utilizing filtering cloth for the underlying layers of cloth.

Conversely, tents, or parts of tents, protective covers, etc. as mentioned above, made as meant by the invention, can keep out harmful particles such as dust or pollen, while ventilation can nevertheless be effected in a sufficient manner.

With a tent according to the invention, allergic persons can camp also when the air contains much pollen, when

the appropriate filtering cloth is used. For instance, during the night, the entire tent can be closed hermetically (if required, an entirely closed tub ground sheet can be used) and fresh air is let in through the filtering cloth.

An example of a protective cover for a motorcar which embodies the invention is shown schematically in Fig. 2. The cover 20 has an outer layer 21 of waterproof material and an inner layer 22 of breathing material. If required, spacer means may be provided between the two layers. For instance, hourglass-shaped spacer means of soft plastic may be used, securable with a few stitches or by means of glue. An example is shown schematically in Fig. 4. Condensation, which normally often occurs in such covers, can thus be avoided. Preferably, also in a protective cover according to the invention, the edge connection between an outer panel and an inner panel can be opened or closed by operating means to enable ventilation. In Fig. 2, the roof panel is open and the open space between inner panel and outer panel is indicated by 23.

In a tent construction according to the invention, the space between an outer and an inner panel, when the outer panel is entirely closed, contains a layer of substantially still air, which has a heat-insulating effect. This prevents condensation. Condensation is also prevented in that the inner panel is not manufactured from dense, smooth material. The insulating effect can even be improved by inserting

between an outer panel and an inner panel, or underneath the "scales" if scales are used, a layer of insulating material.

If so desired, the outer panels and "scales" of a tent construction according to the invention can even be of a double-layered construction, so that between the two layers an insulating material, such as for instance blister padding, aluminum foil, blisterpadding with a layer of aluminum, etc., can be provided. The relevant panels can for instance be designed as a type of envelope, enabling ready insertion and removal of the insulating material.

It is observed that after the foregoing, various modifications will readily occur to anyone skilled in the art. Such modifications are understood to fall within the framework of the invention.

Claims

1. A method for manufacturing a tent construction comprising at least one panel manufactured from suitable cloth, **characterized in that** a basic tent construction having at least one basic panel is manufactured from a desired material and that at least one of the basic panels is provided with one or more covering panels of waterproof material which form part of the outer wall of the tent construction.

2. A method according to claim 1, **characterized in that** at least one of the covering panels is fitted so as to be at least partially detachable.

3. A method according to claim 1 or 2, **characterized in that** the basic panel is formed by a number of relatively narrow edge strips of durable cloth, to which edge strips one or more at least partially detachable covering panels are attached, which together with the relatively narrow edge strips form a complete panel or panel part.

4. A method according to claim 1 or 2, **characterized in that** the basic tent construction is formed from breathing material and that at least one covering panel of weather-resistant material is fitted.

5. A method according to claim 3, **characterized in that** the opening left clear by the relatively narrow edge strips is closed off by a relatively open, breathing material for

forming a closed basic panel, and that on the thus obtained basic panel at least one covering panel of weather-resistant material is fitted.

6. A method according to any one of the preceding claims, **characterized in that** at least one of the basic panels is provided with covering panels arranged in the manner of roof tiles or scales.

7. A method according to any one of the preceding claims, **characterized in that** one of more covering panels are arranged for setting out or folding down or the like.

8. A method according to claim 3, **characterized in that** from the relatively narrow edges, together with tent poles and the like, a frame for the tent construction is formed.

9. A method according to any one of the preceding claims, **characterized in that** for attaching at least one covering panel along at least one of the edges of the covering panel, detachable fastening means are used.

10. A method according to claim 9, **characterized in that** the detachable fastening means consist of zippers, Velcro fasteners or the like.

11. A method according to any one of the preceding claims, **characterized in that** at least one of the covering panels is provided with an expansion member to enable putting the covering panel into an outwardly open position.

12. A method according to any one of the preceding claims, **characterized in that** at least one of the covering panels is

provided with one or more guy ropes for stretching out the covering panel.

13. A method for manufacturing a tent construction having at least one roof panel and at least one wall panel, **characterized in that** at least the roof panel is of double-walled design having an outer panel and an inner panel, and that operable closing means are provided to enable opening or closing the interspace located between the inner panel and the outer panel.

14. A method according to claim 13, **characterized in that** the outer panel is provided with means for tautening the outer panel to increase the interspace between the outer panel and the inner panel.

15. A method according to claim 14, **characterized in that** at the location of at least one of the tent poles, the outer panel is provided with at least one additional opening for receiving a tent pole to enable bringing the outer panel into a taut and a less taut condition.

16. A method according to any one of claims 13-15, **characterized in that** the inner panel is cut hollow.

17. A method according to any one of claims 13-16, **characterized in that** the outer panel is designed with detachable fastening means provided along at least two edges, for attaching the outer panel to the inner panel.

18. A method according to any one of claims 13-17, **characterized in that** the outer panel is provided with edge

flaps for covering the interspace between the outer panel and the inner panel.

19. A method according to any one of claims 13-18, **characterized in that** the inner panel is provided with one or more waterproof edge strips.

20. A method according to any one of the preceding claims, the tent construction comprising a roof consisting of at least one panel, **characterized in that** the roof as a whole and/or the panels forming the roof are designed so as to be separately detachable, utilizing suitable operable fastening means.

21. A tent construction comprising at least one panel manufactured from suitable cloth, **characterized by** a basic tent construction comprising at least one basic panel, at least one of the basic panels being covered with one or more covering panels of waterproof material, forming part of the outer wall of the tent construction.

22. A tent construction according to claim 21, **characterized in that** at least one of the covering panels is attached so as to be at least partially detachable.

23. A tent construction according to claim 21 or 22, **characterized in that** the at least one basic panel comprises a number of relatively narrow edge strips of durable material, one or more at least partially detachable covering panels being attached to the edge strips.

24. A tent construction according to claim 23, **characterized in that** the opening of the at least one basic panel, which

opening is left clear by the relatively narrow edge strips, is closed off by an air and/or light-permeable material for forming a closed basic panel.

25. A tent construction according to claim 23 or 24, **characterized in that** the relatively narrow edge strips of a number of basic panels, together with associated tent poles or the like, form at least a part of a frame for the tent construction.

26. A tent construction according to claim 21 or 22, **characterized in that** the basic tent construction is at least partially built up from breathing cloth, on which a suitable number of panels from weather-resistant material are provided, said number of panels comprising one or more at least partially detachable panels.

27. A tent construction according to any one of claims 21-26, **characterized in that** the at least partially detachable panels comprise at least a roof panel.

28. A tent construction according to claim 27, **characterized in that** by operable fastening means, the roof panel is connected along at least two edges to an inner roof panel, while by the fastening means, a gap-shaped space can be opened or closed between the outer roof panel and the inner roof panel.

29. A tent construction according to claim 28, **characterized in that** the inner roof panel is provided with waterproof edge strips adjacent the fastening means.

30. A tent construction according to claim 28 or 29, **characterized in that** the outer roof panel is provided with an edge flap adjacent the fastening means, for covering the entrance to the gap-shaped space.

31. A tent construction according to any one of claims 27-30, **characterized by** tensioning means for tensioning the at least one roof panel taut or less taut.

32. A tent construction according to claim 31, **characterized in that** the tensioning means comprise a number of receiving openings for a tent pole, provided side by side in the roof panel.

33. A tent construction according to any one of claims 27-32, **characterized by** an inner roof panel which is located under a partially detachable outer roof panel and which is cut hollow.

34. A tent construction according to any one of claims 21-33, having an outer roof formed from one or more covering panels, **characterized in that** the outer roof as a whole and/or one or more of the panels thereof is/are attached by operable fasteners so as to be entirely detachable.

35. A tent construction according to any one of claims 21-34, **characterized in that** at least a number of covering panels can be stretched out by means of expanders and/or tensioners.

36. A tent construction according to any one of claims 21-35, **characterized in that** at least one of the covering panels is of double-layered design such that between the

layers of such a covering panel, a layer of insulating material can be provided.

37. A tent construction according to any one of claims 21-35, **characterized in that** under at least a number of covering panels, a layer of insulating material has been provided.

38. A caravan or folding caravan comprising a tent construction according to any one of claims 21-37.

39. A tent construction according to any one of claims 21-37, designed as protective cover comprising a number of panels, **characterized in that** at least one of the panels comprises a basic panel of breathing material which, in operation, is located on the inside of the cover and which comprises a covering panel of waterproof material located on the outside, said covering panel being attached, at least along a number of its circumferential edges, to the basic panel, such that an insulating layer of air is present between the basic panel and the covering panel.

40. A tent construction according to claim 39, **characterized by** spacers provided between the covering panel and the basic panel.

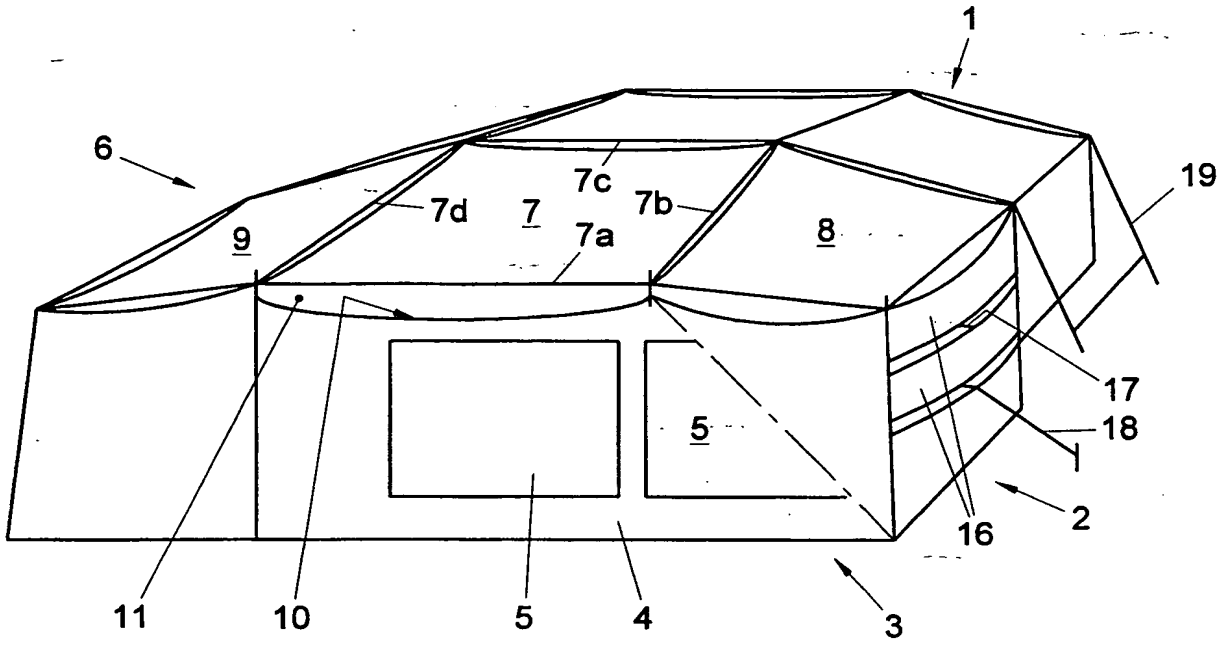

Fig. 1

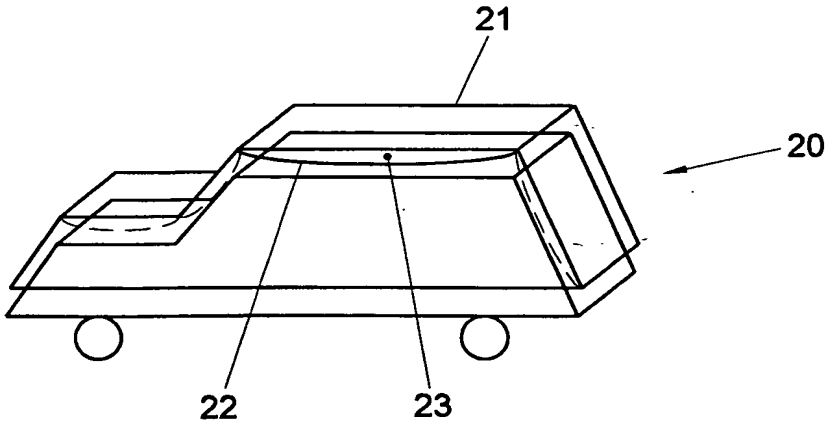

Fig. 2

Fig. 4

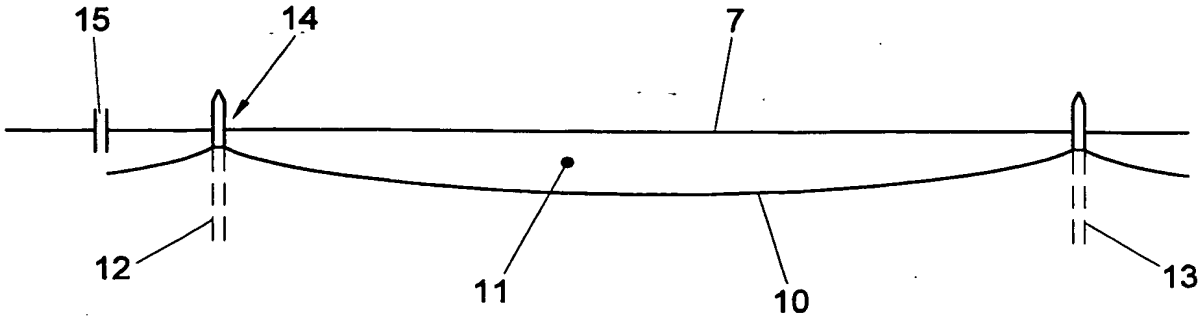

Fig. 3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/NL 99/00444

A. CLASSIFICATION OF SUBJECT MATTER

IPC6: E04H 15/00
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC6: E04H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DE 2459590 A1 (KAMMERICH, H.), 1 July 1976 (01.07.76), figure 1, claim 1	1-40
A	GB 2258666 A (BAEJIN CORPORATION), 17 February 1993 (17.02.93), figure 3, abstract	1-40
A	US 884948 A (R.P. ORR), 14 April 1908 (14.04.08), page 1, line 47 - line 54, figure 3	1-40

[X] Further documents are listed in the continuation of Box C. [X] See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" erlier document but published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
30 Sept 1999	- 5. 11. 99
Name and mailing address of the International Searching Authority European Patent Office P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel(+31-70)340-2040, Tx 31 651 epo nl, Fax(+31-70)340-3016	Authorized officer Vilho Juvonen / MR

INTERNATIONAL SEARCH REPORT

International application No.
PCT/NL 99/00444

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3670747 A (H.J. POHL ET AL), 20 June 1972 (20.06.72), column 1, line 41 - line 50, figures 1, 2	1-40

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.
PCT/NL 99/00444

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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GB 2258666 A	17/02/93	DE 4238143 A,C	19/05/94
		FR 2698401 A,B	27/05/94
		KR 9310145 B	14/10/93
		NL 192048 B,C	02/09/96
		NL 9202060 A	16/06/94
		CH 685352 A	15/06/95
		KR 9608869 Y	10/10/96
US 884948 A	14/04/08	NONE	
US 3670747 A	20/06/72	NONE	